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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,282	04/12/2001	Dan A. Steinberg	Haleos 2001-124	2027

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EXAMINER

ZARROLI, MICHAEL C

ART UNIT PAPER NUMBER

2839

DATE MAILED: 08/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/833,282

Applicant(s)

STEINBERG, DAN A.

Examiner

Michael C. Zarroli

Art Unit

2839

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-76 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,5-17,22-26 and 29-37 is/are allowed.
- 6) ☒ Claim(s) 2,18-21,27,28,38-40,45,46,52-56,63,64,71-73,75 and 76 is/are rejected.
- 7) ☒ Claim(s) 41-44,47-51,57-62,65-70 and 74 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 16.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. The examiner calls to the applicant's attention a fax that was received from the applicant 6/26/03 in which reference number 616 "horizontal grooves" was discussed as being a "detent" instead. The applicant indicates that this fax is for this application but identifies an amendment filed "November 26." There was no amendment filed on this date for this application. Maybe the applicant has become confused with one of the other co-pending applications. The applicant should rectify this discrepancy and put these comments in any future amendment.
2. The examiner also wants to call to the attention of the applicant that no new power of attorney was received for the attorney of record in the RCE. Possibly the applicant has filed one but it has not been matched to this case.

***Continued Examination Under 37 CFR 1.114***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous

Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/16/03 has been entered.

*Drawings*

4. All drawing objections have been overcome.

*Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 2, 18-21 and, 27-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "registration" or "register" in these claims is a relative term, which renders the claims indefinite. The term "registration" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. How are components that are in registration or even "partial registration" with each other related? Are they in contact, aligned, staggered etc.?

***Response to argument:*** The examiner has removed the 112 rejections for claims 10, 59-60 and, 69-70 not because of the argument but because there was enough recitation of structure around the term “registration” so that the examiner could get a picture of the metes and bounds of these claims. This term is not unknown in this art but the examiner has seen a wide range of meanings for this term. Attached is a dictionary definition that reads, “to adjust so as to be properly aligned.” Is this definition what the applicant is indicating is the meaning of this term? Could the applicant put this definition in a glossary in the specification? The examiner must be careful about reading the specification into the claims especially for an ambiguous term. Recently the courts have been very particular about the meanings of terms.

7. All other 112 rejections have been overcome.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 38-40, 45-46, 63-64, 71-73 and, 75-76 (as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted art Basavanhally et al (US 5337384) in view of Kaplow et al (US 5440655).

Basavanhally discloses a fiber optic array switch (*col. 2 lines 29-31*) with a first (12, 14) and second array (13, 15). Each array has a front face that is disposed facing the other (fig. 1). Basavanhally also discloses a friction-reducing element (23, 24) “intermediate” these faces that aid when the arrays are aligned to effect switching.

Basavanhally does not disclose grooves.

Kaplow discloses an optical fiber switch (abstract first two sentences) with a first groove along a first path within the front face (fig. 11) of a first array (90 or 91) and, a second groove along a second path in the front face (fig. 11) of a second array (92).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the first and second grooves of Kaplow with the device of Basavanhally. The motivation for doing so would have been to eliminate some of the expensive alignment equipment of Basavanhally. With these alignment grooves of Kaplow combined with the

device of Basavanhally, the alignment components in for example figure 4 could be eliminated.

Regarding claim 39 Kaplow discloses a friction-reducing element that includes a first roller element (45) in a first groove (49) of a first array (38) and in contact with (fig. 4A) the face of the second array (37) thereby allowing the first array to be displaced (figures 6 & 7) relative to the second array along the direction of the first path (fig. 4A).

Regarding claim 40 Kaplow discloses that the second groove is disposed relative to the first groove to provide a single path of movement between the arrays (figures 8A & 8B).

Regarding claim 45 Kaplow discloses that the first and second grooves are the same length (fig. 11).

Regarding claim 46 Kaplow discloses that the roller element is confined in the first groove during relative displacement of the two arrays (fig. 4A).

Regarding claims 63-64 and, 71-72 Basavanhally discloses that the first array is two dimensional and comprised of a plurality of linear fiber channels (16).

Regarding claim 73 Basavanhally discloses that a roller element is spherical (fig. 1).

Regarding claims 75-76 Basavanhally discloses that the first array holds at least one optical fiber (38 or 49).

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country, in public use, or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 38-40, 45-46, 52-56, 63-64, 71-72, 73 and, 75-76 are rejected under 35 U.S.C. 102(b) as being anticipated by Pimpinella (U.S. 5123073).

Pimpinella discloses a first (fig. 4) and second array (fig. 3) of optical fibers.

Each array has a front face that is disposed facing the other (fig. 1).

Pimpinella also discloses a friction-reducing element (72, 75, 77)

“intermediate” these faces that aid when the arrays are aligned to effect switching (col. 6 lines 7-18). Pimpinella also discloses a first groove along a first path within the front face of the first array and, a second groove along a second path in the front face of the second array (figures 7-11).

Regarding claim 39 Pimpinella discloses a friction-reducing element that includes a first roller element in a first groove of a first array and in contact

with the face of the second array thereby allowing the first array to be displaced relative to the second array along the direction of the first path (fig. 1).

Regarding claim 40 Pimpinella discloses that the second groove is disposed relative to the first groove to provide a single path of movement (38) between the arrays.

Regarding claim 45 Pimpinella discloses that the first and second grooves are the same length (figures 7 & 10).

Regarding claim 46 Pimpinella discloses that the roller element is confined in the first groove during relative displacement of the two arrays (fig. 1).

Regarding claims 52-56 Pimpinella discloses a third groove in the front face and having a second roller element. This third groove is dimensioned to match the dimension of the second roller element so that the second roller is confined within the third groove of the first array. Pimpinella also discloses that the third groove is parallel to the first groove (figures 3 & 4).

Regarding claims 63-64 and, 71-72 Pimpinella discloses that the first array is two dimensional and comprised of a plurality of linear fiber channels (figures 3 or 4).

Regarding claim 73 Pimpinella discloses that a roller element is spherical (e.g. 37).

Regarding claims 75-76 Pimpinella discloses that the first array holds at least one optical fiber (e.g. 9 or 35).

*Response to Arguments*

12. Applicant's arguments filed 6/16/03 have been fully considered but they are not persuasive. Basavanhally discusses the possibility of using his invention as a switch see column 2 lines 29-31.

*Allowable Subject Matter*

13. Claims 1, 3, 5-17, 22-26 and, 29-37 are allowed over the prior art of record.

14. Claims 2, 18-21 and, 27-28 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

15. Claims 41-44, 47-51, 57-62, 65-70 and, 74 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Zarroli whose telephone number is 703-305-0608. The examiner can normally be reached on 7:30 to 3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Feild can be reached on (703) 308-2710. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

17. Any response to this action may be mailed to:

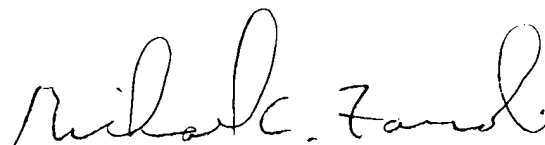
**Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA  
22313-1450**

For additional information regarding this new address, which was effective May 1, 2003, see *Correspondence with the United States Patent and Trademark Office*, 68 Fed. Reg. 14332 (March 25, 2003).

**Or faxed to:**  
703-308-7722 or 703-308-7724 (informal or draft communications should be clearly marked "PROPOSED" or "DRAFT")

Art Unit: 2839

**Hand-delivered responses** should be brought to:  
Crystal Plaza 4, Fourth Floor (Receptionist)  
2201 South Clark Place, Arlington, Virginia.



Michael C. Zarroli  
Examiner  
Art Unit 2839

MCZ

MCZ

July 28, 2003

# reg·is·ter

**reg·is·ter** (r ĵĕstĕr) *noun*

**Abbr. reg.**

1. **a.** A formal or official recording of items, names, or actions. **b.** A book for such entries. **c.** An entry in such a record.
2. The act of registering.
3. A device that automatically records a quantity or number.
4. *Computer Science.* A part of the central processing unit where groups of binary digits are stored as the computer is processing them.
5. An adjustable, grill-like device through which heated or cooled air is released into a room.
6. A state of proper alignment: *to be in register.*
7. *Printing.* **a.** Exact alignment of the lines and margins on the opposite sides of a leaf. **b.** Proper positioning of colors in color printing.
8. *Music.* **a.** The range of an instrument or a voice. **b.** A part of such a range. **c.** A group of matched organ pipes; a stop.
9. A variety of language used in a specific social setting: *speaking in an informal register; writing in a scientific register.*

*verb*

**reg·is·tered, reg·is·ter·ing, reg·is·ters** *verb, transitive*

1. **a.** To enter in an official register. **b.** To enroll officially or formally, especially in order to vote or attend classes.
2. To set down in writing; record: *"It is for the historian to discover and register what actually happened"* (Robert Conquest).
3. To indicate on or as if on an instrument or a scale.
4. To give outward signs of; express: *Her face registered surprise.*
5. To attain or achieve: *registered a new high in sales.*
6. To cause (mail) to be officially recorded and specially handled by payment of a fee.
7. To adjust so as to be properly aligned.

*verb, intransitive*

1. To place or cause placement of one's name in a register.
2. To have one's name officially placed on a list of eligible voters.
3. To enroll as a student.
4. To be indicated on or as if on an instrument or a scale.
5. To be shown or expressed, as on the face.
6. To make an impression; be recorded in the mind: *The warning failed to register.*
7. To be in proper alignment.

[Middle English *registre*, from Old French, from Medieval Latin *registrum*, alteration of Late Latin *regeſta*, from Latin, neuter pl. past participle of *regerere*, to record : *re-*, *re-* + *gerere*, to